

REMARKS:

This paper is filed in response to the final Office Action dated January 29, 2007 for the above-captioned U.S. Patent Application. That office action finally rejects claims 1-16, 18-20 and 22.

The final office action rejects claim 18 under 35 USC 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; rejects claims 1-3, 5-8, 16, 18-20, and 22 under 35 USC 102(b) as being anticipated by Barrus (US5410305); rejects claims 4, and 9-10 under 35 USC 103(a) as being unpatentable over Barrus in view of Wright (US6912605); and rejects claims 11-15 under 35 USC 103(a) as being unpatentable over Barrus in view of Kammer (US6950645).

Interview Summary:

A telephonic interview was held on April 16, 2007 with Examiner Zhiyu Lu and the Applicant's representatives Jerry Stanton, and John Garrity. Representative claim 1 was discussed in view of Barrus. No agreement was reached. The Applicant thanks the Examiner for the telephone conference.

Claims 1 and 22 are amended to recite the subject matter of claim 7, which is now cancelled. No new matter is added.

Claim 18 is amended to address the rejection under 35 USC 112, second paragraph. The rejection is now seen as overcome, and the rejection of claim 18 should be removed. Claim 18 is also amended to recite the subject matter of cancelled claim 7

Embodiments of the invention relate to a device and associated method of operating the device. The device has a first mode and a second mode and a touch entry user input device for user input. The device is operable to perform a first function when it is in the second mode, but not when it is in the first mode. The device is arranged to initiate exit from the first mode and entry to the second mode at the initiation of the user input and to perform the first function at the

completion of the user input wherein the exit from the first mode occurs before discrimination of the user input.

Embodiments of the invention require that two functions are performed in response to a single user input, namely transfer of the device from the first mode and the first function which can be performed when the device is in the second mode but not when the device is in the first mode. The two different functions are performed at different times of the user input. The transfer of the device from the first mode to the second mode is performed at the start of the user input while the first function is performed at the end of the user input. Thus, the exit from the first mode occurs before discrimination of the user input.

As the exit from the first mode occurs before discrimination between different types of user inputs, such as long presses of a key, short presses of a key or multiple inputs of a key, the device may have completed the transfer from the first mode to the second mode before the completion of the user input and the first function can be performed immediately once the user input has been completed. As the device is already in the second mode when the input is completed the user does not have to wait for the device to be transferred from the first mode to the second mode and so this reduces the reaction time when using the device and provides an improved user experience.

Barrus discloses a portable computer keyboard capable of storing data so that the keyboard can be used to input data when the keyboard is not attached to a computer. The stored data can then be dumped into the computer when the keyboard is connected to a computer.

Barrus also discloses that the keypad has a power conserving sleep mode. Barrus discloses that the keyboard dwells in the low power mode until the microcontroller is interrupted by a closed keyboard switch matrix switch or connection of the device to a host computer (column 13 lines 30-34).

Regarding the rejection of claim 1, the Examiner states:

Barrus et al. anticipate a device (keyboard) having a first mode (sleep mode) in which the device does not perform a first function and a second mode (active mode) in which the device does perform the first function (stores and transmits) wherein the device has a touch-entry user input device for user input and is arranged, when in the first mode, to initiate exit (wakes up) from the first mode and entry into the second mode at the initiation of a user input and to perform the first function at the completion of the user input (column 10 lines 31-57).

Barrus discloses:

“As can be seen, the microcontroller 230 is central to the operation and control of the device. Typically, the microcontroller 230 will execute a predetermined set of program instructions stored in the ROM 240, while temporary program variables and input information will be stored in the RAM 250. Usually, during normal operation, the microcontroller 230 will be in a low power "sleep" mode until interrupted by a keystroke signal from the keyboard interface circuit 290. In response, the microcontroller 230 "wakes up" and scans the keyboard matrix 340 to determine which key was pressed,” (emphasis added), (col. 10, lines 36-41).

Barrus does not disclose or suggest exit from the first mode and entry into the second mode at the initiation of a user input and to perform the first function at the completion of the user input, as in claim 1.

Further, claim 1 has been amended to recite the subject matter of claim 7. In the rejection of claim 7 the Examiner asserts:

Barrus et al. also anticipate the initiation of the exit from the first mode occurs before discrimination of the user input (column 10 lines 39-41).

The Applicant respectfully disagrees.

Barrus discloses:

“In response, the microcontroller 230 "wakes up" and scans the keyboard matrix 340 to determine which key was pressed,” (col. 10, lines 39-41).

Barrus further discloses:

“In Step 650, the microcontroller scans the keyboard switch matrix to determine which key, if any, has been pressed. If it is determined that a key has been pressed, i.e., a closed switch has been detected, a code corresponding to the key is added to a queue stored in the RAM to be processed during subsequent steps. In accordance with a preferred embodiment of the invention, an auto-repeat feature will be implemented in the set of instructions executed by the microcontroller. Such a feature would involve determining the relative time period a particular key has been depressed. If the time period is less than a predetermined period, it is assumed that the user intended to activate the particular key only once. [...] If, however, the relative time period between identical detected depressed keys is greater than the predetermined period, then in Step 650 it is assumed that the user intended to activate the auto-repeat feature by keeping the key depressed, and in response, the microcontroller adds another of the same character to the queue and begins timing again,” (emphasis added), (col. 12, line 56 to col. 13, line 14).

Barrus discloses an auto-repeat feature in which the keys are arranged so that the relative time period since a key has been depressed can be determined. If the time period between successive actuations of the same key is less than a pre-determined period it is assumed that the user intended to activate the particular key only once and the microcontroller will not enter a character since it determines this to be a single key stroke. However if the time period between successive actuations of the same key is greater than the predetermined period it is assumed that it is intended to activate the auto repeat feature.

Therefore, Barrus teaches that it is advantageous not to enter a character at the initiation of a key press but rather that it is preferable to wait until a predetermined time has elapsed and the nature of the key press can be determined. Therefore, Barrus teaches that it would be disadvantageous to introduce a feature of performing a function at the initiation of a key press.

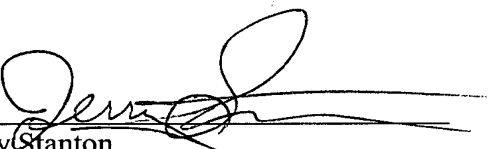
For at least the reasons stated the Applicant contends that Barrus does not disclose or suggest “when in the first mode, to initiate exit from the first mode and entry into the second mode at the initiation of a user input and to perform the first function at the completion of the user input wherein the exit from the first mode occurs before discrimination of the user input,” as claim 1 recites in part.

Wright discloses "The act of a key switch being executed typically wakes up the keyboard controller" (col. 5, lines 42-43). However, Wright does not disclose or suggest any distinction being made between the initiation of a key press and the completion of a key press as in claim 1. Wright merely discloses "The act of a key switch being executed" (col. 5, line 47). Kammer relates to a method in a Bluetooth wireless network comprising Master and Slave responder devices, to manage the discovery process and to reduce the burden on the power resources available to the devices (col. 14, lines 12-15). Kammer discloses "In essence, the on/off switch of responder device 730 also functions as the mechanism by which the user selects either discoverable non-discoverable mode" (col. 13, lines 1-4). No teaching of Wright or Kammer is seen to offset Barrus' teaching away from amended claim 1 as detailed above. Therefore, neither Wright nor Kammer are seen to cure the above deficiencies of Barrus vis a vis claim 1, so claim 1 is seen to be both novel and non-obvious over all references of record, alone or in combination.

Independent claims 18 and 22 are amended with the same subject matter as is claim 1, and substantively distinguish over the references for the reasons detailed above for claim 1. All other claims depend from claims 1 or 18, and should be allowable for that dependency at least.

The Examiner is respectfully requested to reconsider and withdraw the rejections of claims 1-6, 8-16, 18-20, and 22 to allow each of the pending claims 1-6, 8-16, 18-20, and 22. Should any unresolved issue remain, the undersigned representative welcomes the opportunity to resolve them via teleconference as the Examiner may deem it appropriate to do so.

Respectfully submitted:


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